

## **Why are trees important to Louisville?**

1. Carbon sequestration to aid in climate protection...
  - A large tree canopy can help reduce the urban temperature and therefore volatile organic compounds, ozone and particulate matter levels in the community.
  - One acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen. This is enough to meet the annual needs of 18 people."—*U.S. Department of Agriculture*
  - Lowering temperatures lowers energy use thereby reducing carbon dioxide emissions.
2. Air Pollution.....
  - A major study of Chicago estimated that trees in that city annually removed 15 metric tons of carbon monoxide, 84 tons of sulfur dioxide, 89 tons of nitrogen dioxide, 191 tons of ozone, and 212 tons of small particulates. The estimated value of this pollution removal was \$1 million for trees in the city itself and \$9.2 million for the entire Chicago area (Nowak et. al., 1994).
  - The Metro Louisville area is non-attainment for particulate matter and a maintenance area for the ozone national ambient air quality standards (NAAQS) and by Federal law, is subject to specific requirements to reduce these forms of pollution and thus improve human health. Urban vegetation, especially trees, can help achieve that goal.
3. Energy Savings.....
  - Trees properly placed can reduce air conditioning needs by 30 percent and can save 20 - 50 percent in energy used for heating."—*USDA Forest Service*
4. Stormwater mitigation...
  - A recent pest devastation of trees in Detroit resulted in millions of dollars in increased cost in storm water management.
  - In Atlanta a 2001 study estimated the value of their trees to save \$85.9 million a year in storm water retention alone.
5. Aesthetics....
  - *International Society of Arboriculture* states that value of houses increase 15-20% with trees
  - "In one study, 83% of realtors believe that mature trees have a "strong or moderate impact" on the salability of homes —*Arbor National Mortgage & American Forests*
  - A University of Washington study reported a willingness to pay more for parking in landscaped car parks and on average reported a willingness to pay about 11% more for goods in a landscaped business district.
  - An Emory University study found patients who had a view of nature from their hospital room's window had shorter hospital stays and required fewer pain medications than patients whose room window faced a brick wall.